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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,507	10/07/2003	Michael A. Vyvoda	3558P027D	9650

8791                      7590                      06/14/2005

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EXAMINER

SCHILLINGER, LAURA M

ART UNIT                      PAPER NUMBER

2813

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	Application No. 10/681,507	Applicant(s) VYVODA ET AL.	
	Examiner Laura M. Schillinger	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 05 April 2005.
- 2a)  This action is FINAL.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-67 is/are pending in the application.
  - 4a) Of the above claim(s) 13-67 is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-6 and 8-12 is/are rejected.
- 7)  Claim(s) 7 is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some \* c)  None of:
    - 1.  Certified copies of the priority documents have been received.
    - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/14/05.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-6, 8-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's Admitted prior art (US serial number 09/927648-Lee et al) .

The following claimed limitations as cited below are based upon Applicant's admitted prior art.

The citations labeled "Admitted prior art" refer to Applicant's own specification. Citations listing Page and line number refer to the specification of serial number 09/927648, itself or 2002/0028541, the published copy of the specification.

1. (Original) A method of forming an active device, the method comprising: performing a first patterning operation on a first plurality of layers, the first patterning operation defining a first feature of the active device (Admitted prior art page 3 [0008]); and

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performing a second patterning operation on at least one patterned layer of the first plurality of layers, the second patterning operation defining a second feature of the active device, wherein the first and second patterning operations are performed substantially back-to-back (Admitted prior art, page 3 [0008] see also US 2002/0028541 page 11 [0141]- teaching back to back).

2. (Original) The method of Claim 1, wherein the first patterning operation includes: etching the first plurality of layers into a first plurality of strips oriented in a first direction (Admitted prior art page 3 [0008]).

3. (Original) The method of Claim 2, wherein the second patterning operation includes: etching at least one strip of the first plurality of strips in a second direction, the second direction being different than the first direction, to create a pillar (Admitted prior art page 3 [0008]).

4. (Original) The method of Claim 3, wherein at least one strip of the first plurality of strips comprises a first terminal of the active device (pages 34-35, lines: 25-25).

5. (Original) The method of Claim 4, wherein the pillar comprises another portion of the active device (pages 34-35, lines: 25-25).

6. (Original) The method of Claim 4, further including: depositing a first dielectric after both first and second patterning operations; and planarizing the first dielectric to expose a surface of the active device (page 38, lines: 1-10).

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8. (Original) The method of Claim 6, further including: depositing a second plurality of layers on the surface of the active device and the first dielectric; and etching the second plurality of layers into a second plurality of strips oriented in the second direction (page 38, lines: 25-32).

9. (Original) The method of Claim 8, wherein said second plurality of strips is not self-aligned to the pillar (Page 38, lines: 25-32).

10. (Original) The method of Claim 8, wherein at least one strip of the second plurality of strips comprises a second terminal of the active device (page 40, lines: 20-35).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art US serial number 09/927648-Lee et al as applied to claim 1 above, and further in view of Li et al ('530).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37

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CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

11. (Original) The method of Claim 1, wherein the first plurality of layers includes an antifuse layer fully etched through by the first patterning operation, but not fully etched through by the second patterning operation (Fig.5 (114) and Col.5, lines: 50-65).

12. (Original) The method of Claim 1, wherein the first plurality of layers includes an antifuse layer fully etched through by both the first and second patterning operations (Fig.5 (114) and Col.5, lines: 50-65).

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It would have been obvious to one of ordinary skill in the art to modify Lee et al to further include an etched antifuse layer as taught by Li et al because it acts to protect the circuit from dielectric rupture (Li et al-Col.4, lines: 60-65).

#### *Allowable Subject Matter*

The following is a statement of reasons for the indication of allowable subject matter: 7. Prior art of record fails to teach nor suggest the method of Claim 6, further including performing a cleaning step after planarizing. Consequently, claim 7 contains allowable subject matter.

#### *Response to Arguments*

Applicant's arguments filed 4/5/05 have been fully considered but they are not persuasive. Applicant argues that Lee fails to teach back-to-back patterning steps as claimed by the Applicant. This argument is not persuasive as cited above- see page 11 of US 2002/0028541 A1 para [0141]- teaching back-to-back patterning.

#### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

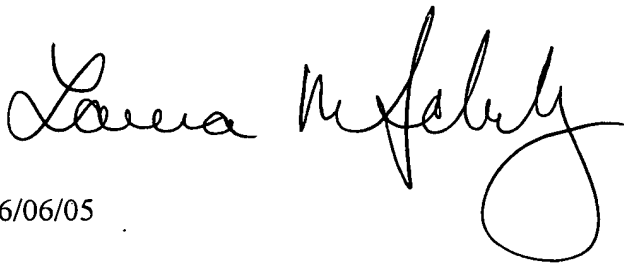
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Laura M Schillinger  
Primary Examiner  
Art Unit 2813

06/06/05